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REMARKS

This response is intended as a full and complete response to the non-final Office Action mailed September 26, 2006. In the Office Action, the Examiner notes that claims 1 and 4-14 are pending and rejected. By this response, Applicants have amended claims 1, 7-10, and 13-14. Claims 4 and 5 are hereby cancelled. No new matter has been added.

In view of both the foregoing amendments and the following remarks, Applicants submit that none of the claims now pending in the application are obvious under the provisions of 35 U.S.C. §103. Thus, Applicants believe that all of the claims are now in allowable form.

It is to be understood that Applicants, by amending the claims, do not acquiesce to the Examiner's characterizations of the art of record or to Applicants' subject matter recited in the pending claims. Further, Applicants are not acquiescing to the Examiner's statements as to the applicability of the art of record to the pending claims by filing the instant response including amendments.

REJECTIONS

35 U.S.C. §103

Claims 1, 7-8, and 11-14

The Examiner has rejected claims 1, 7-8, and 11-14 under 35 U.S.C. §103(a) as being unpatentable over Mandal (U.S. Patent 6,170,009, hereinafter "Mandal") and Robinson et al. (U.S. Patent 6,570,867, hereinafter "Robinson"). Applicants respectfully traverse the rejection.

Claims 1 and 7 recite the features of assigning to a node a parameter indicative of a rate of change of usage of said resources, locally monitoring, at the node, the rate of change of the usage of the resources, and reporting to a centralized management station of the network when the rate of change of the usage exceeds a first predetermined threshold. Neither Mandal nor Robinson, singly or in combination, teaches or suggest those features.

In general, Mandal teaches control of devices on a network using policies. Specifically, Mandal discloses a system that allows an operator to specify a policy for

controlling a group of devices. The policy is automatically translated into lower-level device-specific commands which are sent to the devices across the network. (Mandal, Abstract).

Mandal, however, fails to teach or suggest at least the limitations of assigning to a node a parameter indicative of a rate of change of usage of said resources, locally monitoring, at the node, the rate of change of the usage of the resources, and reporting to a centralized management station of the network when the rate of change of the usage exceeds a first predetermined threshold, as claimed in Applicants' claim 1.

Rather, although Mandal mentions that the system provides a mechanism for continuous monitoring and control of devices, Mandal fails to specifically teach or suggest monitoring any rate of change of usage of a resource. Rather, Mandal merely mentions that a policy may be established that specifies a value to be monitored. For example, Mandal describes a policy that specifies that a network management system should allow no more than 30% of total bandwidth for video traffic. (Mandal, Col. 3, Lines 57-58). A policy which specifies a value to be monitored (e.g., a policy to monitor the percentage of total bandwidth consumed by video traffic), as taught in Mandal, is not monitoring a rate of change of usage of resources, as claimed in Applicants' claim 1.

In the Office Action, the Examiner cites a specific portion of Mandal for teaching Applicants' limitations of assigning, locally monitoring, and reporting. The portion of Mandal cited by the Examiner, however, merely teaches inputting of commands that specify a high-level policy for controlling actions of devices. Although the cited portion of Mandal mentions that a policy may specify that a value may be monitored to detect when the value crosses a threshold, Mandal is devoid of any teaching or suggestion of assigning, monitoring, or reporting on any rate of change, as claimed in Applicants' claim 1. Specifically, the cited portion of Mandal merely states:

> "Policy server 122 receives commands from user 126 through Graphical User Interface (GUI) 124, and uses these commands to control the actions of devices coupled to network 108. As illustrated in FIG. 1, policy server 122 includes processor 121 and memory 123, which are used to carry out the actions of policy server 122.
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> The system illustrated in FIG. 1 operates as follows. First, user 126 inputs

commands into GUI 124; these commands specify a high-level policy for controlling actions of devices 130 and 132. For example, a policy may specify that a temperature control system should keep a portion of a building at a certain temperature. Another policy may specify that a network management system should allow no more than 30% of total bandwidth for video traffic. Yet another policy may specify that a network management system should give higher priority to traffic on a LAN that originates from a finance server at the end of a quarter. Next, policy server 122 receives these commands and translates them into low-level device-specific commands that are sent to devices 103 and 132 across network 108. Note that policy server 122 may additionally be used to control switching and routing devices within backbone 114 and server network 116.

Description of Policy Server

FIG. 2 illustrates the internal structure of a policy server 122 from FIG. 1 in accordance with an embodiment of the present invention. As in FIG. 1, policy server 122 receives policies from user 126 through GUI 124. These policies are translated into lower-level device specific commands that are sent over network 108 to devices 130 and 132 (illustrated in FIG. 1). Policy server 122 receives requests to create policies 202 and 204, through HTTP protocol interface 206, or LDAP protocol interface 208. HTTP protocol interface 206 contains computational resources to decipher commands in the HTTP protocol. LDAP protocol interface 208 contains computational resources for deciphering commands in the LDAP protocol."

(Mandal, Col. 3, Line 45 – Col. 4, Line 14)

Applicants respectfully invite the Examiner to point out where in the cited portion of Mandal, or any other portion of Mandal, there is any teaching or suggestion of a rate of change. Applicants respectfully submit that Mandal is devoid of any teaching or suggestion of a rate of change. As such, Mandal must also fail to teach or suggest at least the limitations of assigning to a node a parameter indicative of a rate of change of usage of resources, locally monitoring the rate of change of the usage of the resources, and reporting to a centralized management station of the network when the rate of change of the usage exceeds a first predetermined threshold, as claimed in Applicants' claim 1.

Furthermore, Robinson fails to bridge the substantial gap between Mandal and Applicants' claim 1. In general, Robinson discloses a network management framework

for monitoring network-level concepts of routes and paths. As disclosed in Robinson, a route and path management system includes a data collector for collecting data from individual network elements, a management server for processing the collected data into manageable route and path objects, and a graphical user interface for allowing a user to manage and monitor routes and paths. (Robinson, Abstract).

Robinson, however, fails to teach or suggest at least the limitations of assigning to a node a parameter indicative of a rate of change of usage of resources, locally monitoring, at the node, the rate of change of the usage of the resources, and reporting to a centralized management station of the network when the rate of change of the usage exceeds a first predetermined threshold, as claimed in Applicants' claim 1.

Rather, although Robinson discloses collection of data from a network element, and processing of the collected data by a management server, Robinson fails to specifically teach or suggest any rate of change of a resource. Robinson merely discloses that a user may specify a rate at which selected routes and paths are monitored, which Robinson then defines as the rate at which the network elements are polled. A polling rate at which a management system polls network elements, as taught in Robinson, is simply not a rate of change of usage of a resource by a node, as claimed in Applicants' claim 1.

Since Robinson is devoid of any teaching or suggestion of a rate of change of usage of a resource, Robinson must also fail to teach or suggest assigning to a node a parameter indicative of a rate of change of usage of resources, locally monitoring the rate of change of the usage of the resources, and reporting to a centralized management station of the network when the rate of change of the usage exceeds a first predetermined threshold, as claimed in Applicants' claim 1.

Thus, since Mandal and Robinson each fail to teach or suggest a rate of change of the usage of resources, any permissible combination of Mandal and Robinson must also fail to teach or suggest a rate of change of the usage of resources. Thus, Mandal and Robinson, alone or in combination, fail to teach or suggest Applicants' claim 1, as a whole.

As such, independent claim 1 fully satisfies the requirements of 35 U.S.C. §103 and is patentable over Mandal and Robinson. Similarly, independent claims 7 and 8

recite features similar to the features of claim 1. Namely, independent claims 7 and 8 also include the feature of a rate of change of the usage of resources. As such, for at least the same reasons discussed herein with respect to claim 1, independent claims 7 and 8 fully satisfy the requirements of 35 U.S.C. §103 and are patentable over Mandal and Robinson. Furthermore, claims 6 and 11-14 depend, either directly or indirectly, from independent claims 1, 7, and 8, and recite additional limitations therefor. Therefore, dependent claims 6 and 11-14 are also not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder over Mandal in view of Robinson.

Accordingly, Applicants respectfully request that the rejection be withdrawn.

Claim 9

The Examiner has rejected claim 9 under 35 U.S.C. §103(a) as being unpatentable over Mandal (U.S. Patent 6,170,009, hereinafter "Mandal") and Robinson et al. (U.S. Patent 6,570,867, hereinafter "Robinson"). Applicants respectfully traverse the rejection.

As described herein, Mandal teaches control of devices on a network using policies where each policy is automatically translated into lower-level device-specific commands which are sent to the devices across the network, and Robinson teaches a route and path management system including a data collector for collecting data from individual network elements, a management server for processing the collected data into manageable route and path objects, and a graphical user interface for allowing a user to manage and monitor routes and paths.

Mandal and Robinson, however, alone or in combination, fail to teach or suggest Applicants' claim 9, as a whole. Namely, Mandal and Robinson, alone or in combination, fail to teach or suggest at least the limitation of "initiating a poll, by the management station, of node resource usage by the nodes of the network in response to a determination that a sum of previously reported budget values received from reporting nodes plus an upper bound of budget values for non-reporting nodes exceeds a threshold," as claimed in Applicants' claim 9.

With respect to polling, Mandal merely states that network devices may be polled periodically. More specifically, Mandal states that a topology service "maintains status information for the active devices coupled to the network by either periodically polling devices on network 108, or by merely listening to traffic on network 108 to determine which devices are responding to commands...." (Mandal, Col. 6, Lines 9-13). Mandal, however, is devoid of any teaching or suggestion of initiating a poll of network nodes in response to any determination that a sum of previously reported budget values received from reporting nodes plus an upper bound of budget values for non-reporting nodes exceeds a threshold," as claimed in Applicants' claim 9.

In the Office Action, the Examiner cites a specific portion of Mandal (Col. 4, Lines 52-56 and Col. 5, Lines 41-44), asserting that the cited portion of Mandal teaches Applicants' limitation of "initiating a poll, by the management station, of node resource usage by the nodes of the network in response to a determination that a sum of previously reported budget values received from reporting nodes plus an upper bound of budget values for non-reporting nodes exceeds a threshold," as claimed in Applicants' claim 9. The cited portion of Mandal, however, merely states that the policy server keeps track of the devices and computing nodes coupled to the network, and describes a directory tree structure for storing policies and associated policy objects. Specifically, the cited portions of Mandal state:

> "Policy server 122 additionally includes topology service 260, which keeps track of the devices and computing nodes that are coupled to network 108. This information allows policies within policy server 122 to adapt to changes in the topology of network 108." (Mandal, Col. 4, Lines 52-56).
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> "As is illustrated in FIG. 3, the directory structure includes a root node 300, which is coupled to entries 302 and 304. Entry 302 is coupled to entries 306 and 308. Entry 306 is coupled to entry 310. These entries contain conventional static data. More importantly, entry 304 is coupled to policy root object 312. Policy root object 312 forms the root of a tree that contains policy entries. In the example illustrated in FIG. 3, policy root object 312 is coupled to policy entries 314 and 316.
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> As illustrated in FIG. 3, policy entry 316 includes attributes 317, 318 and 319. Each policy attribute contains a type and values. For example,

policy attribute 317 includes type 320 and values 322." (Mandal, Col. 5, Lines 31-44).

Applicants respectfully request that the Examiner point out where in the cited portions of Mandal there is any teaching or even suggestion of polling nodes, much less polling nodes for resource usage, polling nodes for resource usage in response to a determination, reported budget values, previously reported budget values, upper bounds of budget values, distinctions between reporting and non-reporting nodes, or any of the other features of Applicants' limitation. Mandal is devoid of any teaching or suggestion of any such features. As such, Mandal must be devoid of any teaching or suggestion of "initiating a poll, by the management station, of node resource usage by the nodes of the network in response to a determination that a sum of previously reported budget values received from reporting nodes plus an upper bound of budget values for non-reporting nodes exceeds a threshold," as claimed in Applicants' claim 9.

Furthermore, with respect to polling, Robinson merely describes the use of polling to perform path discovery, and polling network objects in an object queue to obtain performance data. Specifically, Robinson describes "polling each network object listed in the object queue 68 (new and old) through the data collector 21 to obtain performance data for each of the objects listed. The object performance logic 69 then forwards the polled responses obtained to the notification channel for notification to the GUI 23." (Robinson, Col. 12, Lines 20-23). Robinson, however, is devoid of any teaching or suggestion of "initiating a poll, by the management station, of node resource usage by the nodes of the network in response to a determination that a sum of previously reported budget values received from reporting nodes plus an upper bound of budget values for non-reporting nodes exceeds a threshold," as claimed in Applicants' claim 9.

Thus, since Mandal and Robinson each fail to teach or suggest "initiating a poll, by the management station, of node resource usage by the nodes of the network in response to a determination that a sum of previously reported budget values received from reporting nodes plus an upper bound of budget values for non-reporting nodes exceeds a threshold," any permissible combination of Mandal and Robinson must also fail to teach or suggest "initiating a poll, by the management station, of node resource

usage by the nodes of the network in response to a determination that a sum of previously reported budget values received from reporting nodes plus an upper bound of budget values for non-reporting nodes exceeds a threshold." Thus, Mandal and Robinson, alone or in combination, fail to teach or suggest Applicants' claim 9, as a whole.

As such, independent claim 9 fully satisfies the requirements of 35 U.S.C. §103 and is patentable over Mandal and Robinson.

Accordingly, Applicants respectfully request that the rejection be withdrawn.

Claim 10

The Examiner has rejected claim 10 under 35 U.S.C. §103(a) as being unpatentable over Mandal (U.S. Patent 6,170,009, hereinafter "Mandal") and Robinson et al. (U.S. Patent 6,570,867, hereinafter "Robinson"). Applicants respectfully traverse the rejection.

As described herein, Mandal teaches control of devices on a network using policies where each policy is automatically translated into lower-level device-specific commands which are sent to the devices across the network, and Robinson teaches a route and path management system including a data collector for collecting data from individual network elements, a management server for processing the collected data into manageable route and path objects, and a graphical user interface for allowing a user to manage and monitor routes and paths.

Mandal and Robinson, however, alone or in combination, fail to teach or suggest Applicants' claim 10, as a whole. Namely, as described herein with respect to claim 1, Mandal and Robinson, alone or in combination, fail teach or suggest a rate of usage of a node resource. As such, for at least this reason, Applicants' claim 10 is patentable over Mandal and Robinson under 35 U.S.C. §103.

Furthermore, Mandal and Robinson, alone or in combination, also fail to teach or suggest at least the limitation of "reporting to a management station of the network when said rate exceeds a pre-determined threshold as determined using local monitoring of the node resource, wherein said rate is determined using a variable time interval," as claimed in Applicants' claim 10.

Mandal is devoid of any teaching or suggestion of reporting by a network node to a management system. Rather, Mandal describes a management system that performs periodic polling of network devices, and which may listen to traffic on the network in order to determine which devices are responding to commands. (Mandal, Col. 6, Lines 9-13). Furthermore, even if Mandal did teach reporting by a network node to a management system, Mandal still fails to teach or suggest any rate that is determined using a variable time interval, much less that a rate of usage of a resource is determined using a variable time interval, as claimed in Applicants' claim 10.

Furthermore, with respect to reporting by a network node to a management system, Robinson merely states that traps may be generated by network elements and reported to the management system. Specifically, Robinson states that "[t]raps generated by network elements 24 are received into the management server 22 through a trap gatherer 61 which is preferably implemented in the data collector 21. The trap gatherer 61 forwards each trap received to a trap handler 62 which is internal to the management server 22." (Robinson, Col. 9, Lines 60-64). Robinson, however, is devoid of any teaching or suggestion of any details of what triggers the traps to be sent, other than a general statement that traps are generated for significant events that occur between polling intervals.

Robinson fails to teach or suggest reporting to a management station of the network when a rate exceeds a predetermined threshold, much less reporting to a management station of the network when a rate of usage of a node resource exceeds a predetermined threshold, as claimed in Applicants' claim 10. Furthermore, even if Robinson did teach reporting to a management station of the network when a rate exceeds a predetermined threshold, Robinson is devoid of any teaching or suggestion of determining any rate, much less determining a rate using a variable time interval. As such, Robinson fails to teach or suggest "reporting to a management station of the network when said rate exceeds a pre-determined threshold as determined using local monitoring of the node resource, wherein said rate is determined using a variable time interval," as claimed in Applicants' claim 10.

Thus, since Mandal and Robinson each fail to teach or suggest "reporting to a management station of the network when said rate exceeds a pre-determined threshold

as determined using local monitoring of the node resource, wherein said rate is determined using a variable time interval," any permissible combination of Mandal and Robinson must also fail to teach or suggest "reporting to a management station of the network when said rate exceeds a pre-determined threshold as determined using local monitoring of the node resource, wherein said rate is determined using a variable time interval." Thus, Mandal and Robinson, alone or in combination, fail to teach or suggest Applicants' claim 10, as a whole.

As such, independent claim 10 fully satisfies the requirements of 35 U.S.C. §103 and is patentable over Mandal and Robinson.

Accordingly, Applicants respectfully request that the rejection be withdrawn.

CONCLUSION

Thus, Applicants submit that all of the claims presently in the application are non-obvious and are patentable under the provisions of 35 U.S.C. §103. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Michael Bentley or Eamon J. Wall at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

Dated: 12/22/06

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